

Supply chain lead time reduction in a pharmaceutical production warehouse - a case study

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ABSTRACT

Purpose

The purpose of this study is to apply value stream mapping (VSM) in Malaysian pharmaceutical production warehouse. A current and future state value stream map from the raw material receiving end to the production unit was developed to find out waste and unwanted lead time. It was very much essential to cut down the supply chain lead time at the initial phase as the raw material unloading, sorting, temporary storage and dispatch to production were seen contributing to a huge lead time build-up.

Design/methodology/approach

The study was initiated with the selection of a product family, construction of the current state map, identification of various wastes and the development of future state map.

Findings

The expected outcomes of the study include the quantification of wastes, improvement in value-added percentage and lead time reduction.

Research limitations/implications

The study was carried out in a single pharmaceutical company. The results of the study are deployable and can be functional in similar production organizations. Contrary to common VSMs that capture core production processes, this study provides strong insights that shall help design lean supply chains, especially in the pharmaceutical domain. This paper has also addressed the viability of the lean in the pharmaceutical warehouse and the reduction in lead time to improve demand forecasting, marketing and sales.

Practical implications

The results of this study have indicated that a significant reduction in pharmaceutical warehouse supply chain lead time is possible as a result of the implementation of VSM from the supply chain's perspective.

Social implications

The insights from this study help in understanding the pharmaceutical supply chain risks and their outcomes.

Originality/value

The paper reports a real-time study conducted in a warehouse of a pharmaceutical organization. Hence, the contributions are original.

KEYWORDS: Lean production, Lean supply chain, Lean warehousing, Pharmaceutical warehouse, Supply chain value stream mapping, Value stream mapping, Lead time reduction

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